



0590  
0124

## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 101081,739  
Source: Q1PE  
Date Processed by STIC: 1/29/03

**THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.**

**PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:**

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

**FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.**

**FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.**

**PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)**

**PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)**

**TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:**

**<http://www.uspto.gov/web/offices/pac/checker>**

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:  
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202  
Or  
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

# Raw Sequence Listing Error Summary

C 1P2

ERROR DETECTED	SUGGESTED CORRECTION	SERIAL NUMBER: 10/081,739
ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE		
1 _____ Wrapped Nucleics Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, this will prevent "wrapping."	
2 _____ Invalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.	
3 _____ Misaligned Amino Numbering	The numbering under each 5 <sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.	
4 _____ Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.	
5 _____ Variable Length	Sequence(s) _____ contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.	
6 _____ PatentIn 2.0 "bug"	A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.	
7 _____ Skipped Sequences (OLD RULES)	Sequence(s) _____ missing. If intentional, please insert the following lines for each skipped sequence: (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped  Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.	
8 _____ Skipped Sequences (NEW RULES)	Sequence(s) _____ missing. If Intentional, please insert the following lines for each skipped sequence. <210> sequence id number <400> sequence id number 000	
9 _____ Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.	
10 ✓ Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence	
11 _____ Use of <220>	Sequence(s) _____ missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)	
12 _____ PatentIn 2.0 "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.	
13 _____ Misuse of n	n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.	



OIPE

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/081,739

DATE: 01/29/2003

TIME: 08:12:35

*Errors on pp. 3-5*

Input Set : A:\09010-107001.txt

Output Set: N:\CRF4\01292003\J081739.raw

```

4 <110> APPLICANT: Callen, Walter
5 Richardson, Toby
6 Frey, Gerhard
7 Miller, Carl
8 Kuzsoka, Martin
9 Short, Jay
10 Mathur, Eric
12 <120> TITLE OF INVENTION: ENZYMES HAVING ALPHA AMYLASE ACTIVITY
13 AND METHODS OF USE THEREOF
15 <130> FILE REFERENCE: 09010-107001
17 <140> CURRENT APPLICATION NUMBER: 10/081,739
C--> 18 <141> CURRENT FILING DATE: 2003-01-21
20 <150> PRIOR APPLICATION NUMBER: 60/270,495
21 <151> PRIOR FILING DATE: 2001-02-21
23 <150> PRIOR APPLICATION NUMBER: 60/270,496
24 <151> PRIOR FILING DATE: 2001-02-21
26 <150> PRIOR APPLICATION NUMBER: 60/291,122
27 <151> PRIOR FILING DATE: 2001-08-14
29 <160> NUMBER OF SEQ ID NOS: 62
31 <170> SOFTWARE: FastSEQ for Windows Version 4.0
33 <210> SEQ ID NO: 1
34 <211> LENGTH: 1311
35 <212> TYPE: DNA
36 <213> ORGANISM: Artificial Sequence
38 <220> FEATURE:
39 <223> OTHER INFORMATION: Synthetically generated
41 <400> SEQUENCE: 1
42 atggccaaact attcggacct ggaaaagggg ggggtcataa tgcaggcgtt ctactgggac 60
43 gtgccttcag caggaatatg qtgggacaca atacggcaga agataccgga gtggtacgat 120
44 ggcgggaatt ccggaatatg gattccccc ggcagcaagg gcattggcgg cgcctattcg 180
45 atgggctacg acccctacga ctctttttaa ctccgttqag acgaccagaa gggaaacgga 240
46 gagacgcggt ttggttccaa gcaggagctc gtgaacatga taaacaccgc ccacgcctat 300
47 ggcattgaag taatagcga tatagtcac aaccacccgg ccggcggtga cctggagtga 360
48 aaccccttcc tgaacgacta tacttggaac gactttcaca aggtcgcttc gggtaaatat 420
49 accgccaaat acctcgatt craccggaac gacttcata ccggcgattc ccgaacattt 480
50 agaggctatc ccgacataac craccgacaan agctgggac agtaactggt ctgggccagg 540
51 caggagagct agcgggataa tctcaggagg atcggaatcg atgcctggcg cttcgactac 600
52 gtaagggtgt atgtctcttg ggtcttcaag gactggctga actggtgagg agcctgggag 660
53 gttggagagt actgggataa caaggctgac gctgttctca actgggataa ctcgagcggt 720
54 gccaagggtt ttgacttggc attctattac aagatggaat agccctttga caacaaagac 780
55 attccagcgt tctctcttgc ctttcagaa ggcacagatg ttgtctcagg agacccttcc 840
56 aagcccgtaa cctttgttgc aaaccagaa accgataaaa tctggaaaca gtatccagcc 900
57 taacgcgtta tcttcacata caggggcagg ccgacaatat tctacggaaa ctacgagga 960

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## RAW SEQUENCE LISTING

PATENT AFFILIATION: US/10/081,739

DATE: 01/29/2003

TIME: 08:12:35

Input Set : A:\09010-107001.txt

Output Set : N:\CRF4\01292003\J081739.raw

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58 tgggtcaaca aagataagct caagaacctc atctggatc atgagaacct cggcggagga 1070
59 aagacaggaa tagttacta agataagct gaactcatc tggtcaggaa cggctacggg 1080
60 gacaaaggcg gggttataac ctacatcaac ctaggctcga gaaaggcgg aaggtgggtt 1140
61 tatgtggaga agttcgggg cggctgcac cagagatata ttggtaacct cggaggtgg 1200
62 gttagaaagt acgtctactc aagcggctgg gtctatctcg aagctccajc ttacgaacct 1260
63 gccaaaggcg agtaaggata ctggtgtgg agctactcgg gggtaggctg a 1311
65 <210> SEQ ID NO: 2
66 <211> LENGTH: 436
67 <212> TYPE: PRP
68 <213> ORGANISM: Artificial Sequence
69 <220> FEATURE:
70 <223> OTHER INFORMATION: Synthetically engineered
71 <410> SEQUENCE: 2
72 Met Ala Lys Tyr Ser Glu Leu Glu Lys Gly Gly Val Ile Met Gln Ala
73 1 5 10 15
74 Phe Tyr Trp Asp Val Pro Ser Gly Gly Ile Trp Trp Asp Thr Ile Arg
75 20 25 30
76 Glu Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp Ile
77 35 40 45
78 Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp
79 50 55 60
80 Pro Tyr Asp Phe Phe Asp Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val
81 65 70 75 80
82 Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn Met Ile Asn Thr
83 85 90 95
84 Ala His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His
85 100 105 110
86 Arg Ala Gly Gly Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr
87 115 120 125
88 Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn Tyr
89 130 135 140
90 Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe
91 145 150 155 160
92 Gly Gly Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp
93 165 170 175
94 Leu Trp Ala Ser Gln Glu Ser Tyr Ala Ala Tyr Leu Arg Ser Ile Gly
95 180 185 190
96 Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val
97 195 200 205
98 Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr
99 210 215 220
100 Trp Asp Thr Asn Val Asp Ala Val Leu Asn Trp Ala Tyr Ser Ser Gly
101 225 230 235 240
102 Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asp Glu Ala Phe
103 245 250 255
104 Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln
105 260 265 270
106 Thr Val Val Ser Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn
107 275 280 285

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/081,739

DATE: 01/29/2003

TIME: 08:12:45

Input Seq : A:\09010-107001.txt

Output Seq: N:\CRF4\01292003\J081739.raw

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110 His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr Ala Phe Ile
111      290      295      300
112 Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu
113 305      310      315      320
114 Trp Leu Asn Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Glu Asn
115      325      330      335
116 Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Tyr Asp Asn Asp Glu Leu
117      340      345      350
118 Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr
119      355      360      365
120 Ile Asn Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys
121      370      375      380
122 Phe Ala Gly Ala Cys Ile His Glu Tyr Thr Gly Asn Leu Gly Gly Trp
123 385      390      395      400
124 Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro
125      405      410      415
126 Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr
127      420      425      430
128 Cys Gly Val Gly
129      435

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131 &lt;110&gt; SEQ ID NO: 3

132 &lt;111&gt; LENGTH: 1419

133 &lt;112&gt; TYPE: DNA

134 <113> ORGANISM: Environmental

135 &lt;114&gt; SEQUENCE: 3

*Invalid response, see error summary sheet item 10*

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136 atgttcctgc tgggtttttt gctcactgcc tgggtgtttt ggcacacagg acagcccccgc 60
137 aagggtgcgc caggttttaa cgggaccatg atgaggtatt ttgaatggtt cttgcccggat 120
138 gatggcaagt tatggaccaa agtggccaat gaagccacaa acttatccag ccttggcctc 180
139 aaggtctttt gggtgcgcgc cgtttacaaa ggaacaagcc gcagcgacgt agggtaacga 240
140 gtatacgaat tgtatgaact cggcgaaatt aatcaaaaag ggacgcgtcc cacaataaac 300
141 gaaacaaaag ctatatactt tcaagccatt caagccgcgc aggcgcgtgg aatgcaagtg 360
142 tggccgatg tgggttttga ccataaaggc cggcgtgacg gcacgggaat ggtggacgcc 420
143 gtcgaagtea atgtgtccga ccggaaccaa gaaatctcgg gcacatacca aatccaaqca 480
144 tggacgaaat ttgttttcc cgggcccggc aacacctact ccagctttaa gtggcgcctg 540
145 taccattttg acggcgttga ttgggacgaa agccgaaaaa tgagccgcct ttacaaattc 600
146 cgggcgcctg gcaaaagcgt ggattggcaa gtacacacgg aaaacggaaa ctatgactac 660
147 ttaatgtatg ccgaccttga tatggatcat ccggaagtcg tgacgcagct gaaaaactgg 720
148 gggaaatggt atgtcaaac aaacgaacat gatgggttcc cgtttgatgc cgtcaagcat 780
149 attaaattca gtttttttcc tgattgggtg tegtatgttc gttctcagac tggcaagcgc 840
150 ctattttacc tgggggaata ttggagctat gacatcaaca agttgcacaa ttacattacg 900
151 aaaacagacg gaacgatgtc ttgtttgat gccccgttac acaacaaatt ttataccgct 960
152 tccaaatcag ggggcgcatt tgatatgcgc acgttaattg ccaatactct catgaaagat 1020
153 caaccgacat tggccgttcc cttcggttat aatcatgaca ccgaaccggg ccaagccctg 1080
154 aactcatggg tggacccatg gttcaaaacg ttgggtttag cctttattct aactcggaag 1140
155 gaaggatacc cgtgcgtctt ttatgggtga tattatgga ttccacaata taacatttct 1200
156 tcgctgaaaa gcaaaatcga tccgctcttc atcgcgcgca cggattatgc ttacgggaag 1260
157 caacatgatt atcttgatca ctccgacatc atcgggtgga caagggaagc ggtcactgaa 1320
158 aaaccagatc cggggttgc ccactgata acgatgtr ccggaagaa caaatgatat 1380
159 tactgtttt aaacaacag ctggaanaa gttctatga 1419

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/081,739

DATE: 01/29/2003

TIME: 08:12:35

Input Set : A:\09010-107001.txt

Output Set: N:\CRF4\01292003\J081739.raw

162 &lt;210&gt; SEQ ID NO: 4

163 &lt;211&gt; LENGTH: 1539

164 &lt;212&gt; TYPE: DNA

165 <213> ORGANISM: Environmental

166 &lt;400&gt; SEQUENCE: 4

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167 tggatgacac aaaaacggct ttacgcccga ttgctgaagc tgttattttg getcatcttc      60
168 tggcggcttc attctgcagc agggggggca aatcttaatg ggacgtgat gcatattttt      120
169 gattgtaca tgcacatga cggcccaaat tggaaaggct tgcacaaaga ctccggcatat      180
170 tgggttgacc aggtattac tggcgttcgg attcccccgg catataaggg aacgagccaa      240
171 cgggttgagg gcaagggggt ttacgaacct tatgatttag gggaggttca tcaaaaaagg      300
172 cgggttgagg caaggtacgg cacaaaaagg gagctgcaat ctggcgtcaa aagcttccat      360
173 cccctgcaca ttacgttta cgggggatgt gtcataaacc acaaaagggg cgtgtatggg      420
174 cccgaagatg taccgggggt tgaagtgcac cccgtgacc gcaacccggc aatttcaggg      480
175 gaacacggaa ttaaaagcct gacacatttt cattttccgg ggcggggcag cacatacagc      540
176 gatttcaaat ggcatttgta cttttttgac ggaacccgatt gggagcagtc ccgaaaagctg      600
177 aaccccatct ataggttcca aggaagggtt tgggatttgg aagtttccaa tgaaaaaggc      660
178 aactatgatt atttgatgta tgcagacata gattatgacc atcctgatgt cgcagcagaa      720
179 attaaagcat cgggcacatt gtatgcacat gaactgcaat tggacgggtt ccgtcttgat      780
180 gtcgcacac acutttaatt ttcttttttg cgggatttgg ttatcatgt cagggaaaaa      840
181 aagggaagg aattgtttac ggtagctgaa tattggcaga atgacttggg ccgctctggaa      900
182 aactatttga acaaaaacaa ttttaattcat tcagtgtttg acgtgcctct tcattatcag      960
183 ttcctatgct catgcacaca gggagggggt tatgatatga ggaatttct gaaaggtaag      1020
184 gtcgtttcca agtatccgtt gaaagcgggt acatttttgg ataaccatga tacaagcccg      1080
185 gtcgaatggt ttgagtgcac tgtccaaaac tgggttaagg cgtttgctta cgtttccatt      1140
186 ccccaagggt aattcggata ccttcagggt ttctacgggt atatgtacgg gacgaaagga      1200
187 gactccagc gcaaaattcc tgccttgaaa cacaaaattg aaccgatctt aaaaagaga      1260
188 aacaggtatg cgtacggagc acagpatgat tatttcgacc accatgacat tgtcggctgg      1320
189 caaayggaa ggcacagctc ggttgcaaat tcaggttttg cggcattaat aacagacgga      1380
190 cgggtgggg caagcgaat gtatgtcggg cggcaaaaag ccggtgagac atggcatgac      1440
191 attacggaa acgttcgga gcbggttgtc atcaattcgg aaggcttggg agagtttcaa      1500
192 gaaacgggg ggtcgtttc aatttatgtt caaagatag      1539

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193 &lt;210&gt; SEQ ID NO: 5

194 &lt;211&gt; LENGTH: 1395

195 &lt;212&gt; TYPE: DNA

196 <213> ORGANISM: Environmental

197 &lt;400&gt; SEQUENCE: 5

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198 ggggtgcaca tgaagttgaa gtaccttgcc ttagtcttgt tgggtgttgg ttgataggc      60
199 ctactctaga ctccagtggg tgcctgcaag taactccgac tggaaagggg cgtgtttata      120
200 atgagggtct tctactggga tgttcccgga gggggaaatc ggtgggacac cataagacag      180
201 aaaaaccogg agtggtaaga cgtcggaaac tgggpgatat ggaattctcc agctagcaaa      240
202 gggatggggg ggggttattc catggggctac gatccctacg attcttttga cctcggcgag      300
203 tctatccaga agggaacagt tgagacgggc ttccggctcaa aggaggaact ggtgaacatg      360
204 ataaacaccc cacactctta tggcataaaq gtgatagggg acatagtcat aaacacccgc      420
205 gccggtggag accttgagtg gaacccctta gtaaaacaact atacttggac agattctctc      480
206 aaggctccct ccggtaaaaa caccggccaac taccttgact tccacccaaa ccagggtcaag      540
207 tctcggatgt aggtacatt tggtagcttt cgggacatcg cccacagaga gagctgggat      600
208 cagtactggc tctgggcaag caatgagagc taccccgcat atctccggag catagggatc      660
209 gatgcacggc gtttcgacta cgtcaaaagg tacggagcgt gggttgttaa tgaactggctc      720
210 actcgttggg gaggtcggc cgttcgagag tactgggaca cgaacgttga tgcactcctt      780

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/081,739

DATE: 01/29/2003

TIME: 08:12:35

Input Set : A:\09010-107001.txt

Output Set: N:\CRF4\01292003\J081739.raw

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214 aactgggcat aagacagcgg tgcdaaggto ttgacttcc cgtcttacta caagatggac 840
215 gaagcttttg acaacaccaa catcccgcgt ttggtttacg cctctacaga cggaggaaac 900
216 gtggtttccc gngatccctt caaggcagta actttcgttg ccacccacga tacagatata 960
217 atctggaaca aptatccggc ttatgggttc atccttacct atgagggaac gcttggtata 1020
218 ttttccggcg actacaggga gtggctcaac aaggataagc ttacaaacct tatctggata 1080
219 caaggacacc ttgcggaggg aagtacaaag atcctctact acgataacga tgaggtata 1140
220 ttcagaggag agggctacgg gagcaaggcg ggcctcataa cctacatana cctcggaaac 1200
221 gactcgggag agcgctgggt gaacgtcgga tcaaaagttg ccgggtacac aatccatgaa 1260
222 tacaaggga atcctgggtg ctgggttgac aggtgggttc agtaagatgg atgggtttaa 1320
223 tggagggaac cctctacga tccagccaac ggatattacg gctactcagt ctggagctac 1380
224 ggaagcttgg gatga

```

226 &lt;11&gt; SEQ ID NO: 6

227 &lt;11&gt; LENGTH: 1386

228 &lt;11&gt; TYPE: DNA

229 &lt;11&gt; ORGANISM: Bacteria

231 &lt;400&gt; SEQUENCE: 6

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232 atgaggaagt atgtcgccct gttcataaac atgtttttcg tagtgagcat ggcagtcgtt 60
233 gaaagggcag ctacggccgc aaagtattcc gagctcgaag aaggcggcgt tataatgcag 120
234 gctcttactt gggcgttccc aggtggagga atctgggtgg accccatcag gagcaagata 180
235 cggagtcggt acgaggcggg aatatccggc atttggatto cgcacgccag caaggggatg 240
236 aagtcgggtt actcgatggg ctacgatccc taagatttct ttgacctcgg cgaatacaac 300
237 cagaagggaa ccttcgaaac ggcgttttggc tctaaacagg agctcatcaa tatgataaac 360
238 agggcccttg ccttcggcgt aaaggtcata ggggacatcg tctaaaccaa ccgcgcaggc 420
239 gaagcctatg agtggaaccc gttcgttggg gactacacct ggaaggactt ctcaaaagtg 480
240 gctcgggga aatatactgc caactacctt gacttccacc ccaacgaggt caagtgcgtt 540
241 gacgaggga ccttgggagg ctccacagac atagcccacg agaaagagct ggaaccagac 600
242 tgcctctggg cgaagcatga gactacgccc gctaccttaa ggagcatcgg cgttgatgcc 660
243 tggccttttg actacgggaa gggctacgga gcgtgggtcg tcaaggactg gctcaactgg 720
244 tggtcgggtt gggcgttggg cgaatacttg gacaccaaag ttgatgcact cctcaactgg 780
245 gctcctcga gcggcgcaa ggtcttcgac ttcccgctct actacaagat ggatgaggcc 840
246 ttgacaaca aaacatttcc agcgtcgttc ttgccccttc agaacggcca gactgctgtc 900
247 tcccccgaac cgttcaaggc cgttaacctt gtagcaaac accacacaga tataatctgg 960
248 acaagttacc ttgcttatgc ttccatcttc aactacgaag gccagcccggt catattctac 1020
249 tgcctctatg agagtggtt caacaaggac aggttgaaca aactcatatg gatacacgac 1080
250 tccctcggag gtggaagcac gacatagtc tactacgaca ggaacgagat gatcttcgtg 1140
251 agaacgggt atggaagcaa gcttgccctt ataacttaca tcaacctcgg ctccagcaag 1200
252 ttgaaaggt gcttttatgt gcgaagttc gggggcggc gcatccacga gtataaggt 1260
253 aactcggag gctgggtaga caagtaagtc tactcaagcg gctgggtcta tctogaaggt 1320
254 cagtttgg accctgcaaa cgggcagtat ggctactcgg tgtggagcta ttgogggtgt 1380
255 gggca

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257 &lt;11&gt; SEQ ID NO: 7

258 &lt;11&gt; LENGTH: 472

259 &lt;11&gt; TYPE: PRT

260 &lt;11&gt; ORGANISM: Environmental

261 &lt;400&gt; SEQUENCE: 7

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262 Met Phe Leu Leu Ala Phe Leu Leu Thr Ala Ser Leu Phe Cys Pro Thr
263      5              10              15
264 Gly Gln Pro Ala Lys Ala Ala Ala Pro Phe Asn Gly Thr Met Met Gln
265      20              25              30

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/081,739

DATE: 01/29/2003

TIME: 08:12:56

Input Set : A:\09010-107001.txt

Output Set: N:\CRF4\01292003\J081739.raw

1:18 M:1/21 C: Current Filing Date differs, Replaced Current Filing Date